PRELIMINARY DRAFT FOR
DISCUSSION PURPOSES ONLY



Nashua-Manchester (Capitol Corridor)

Project Development Phase

Manchester Station and Layover Facility Options — *Follow up Discussion*

June 23, 2021

New Hampshire DOT
Department of Transportation

Meeting Agenda

- Background
- Updated Station Concepts and Land Impacts
- Updated Manchester Layover Facility Concept
- Summary Evaluation
- Next Steps

Background: *Project Objectives*

- Provide alternative to congestion on I-93/Rt3 by extending Lowell Service to Nashua and Manchester
- Improve bi-directional access to jobs & housing
- Perform an Environmental Assessment
- 30% design for 30-mile extension of Lowell Line
  - Four new stations and one layover facility
- Detailed and sustainable Financial Plan

Manchester Station Options

Updated Station Concepts and Land Impacts

Manchester Station Options: *Operational Requirements and Design Criteria*

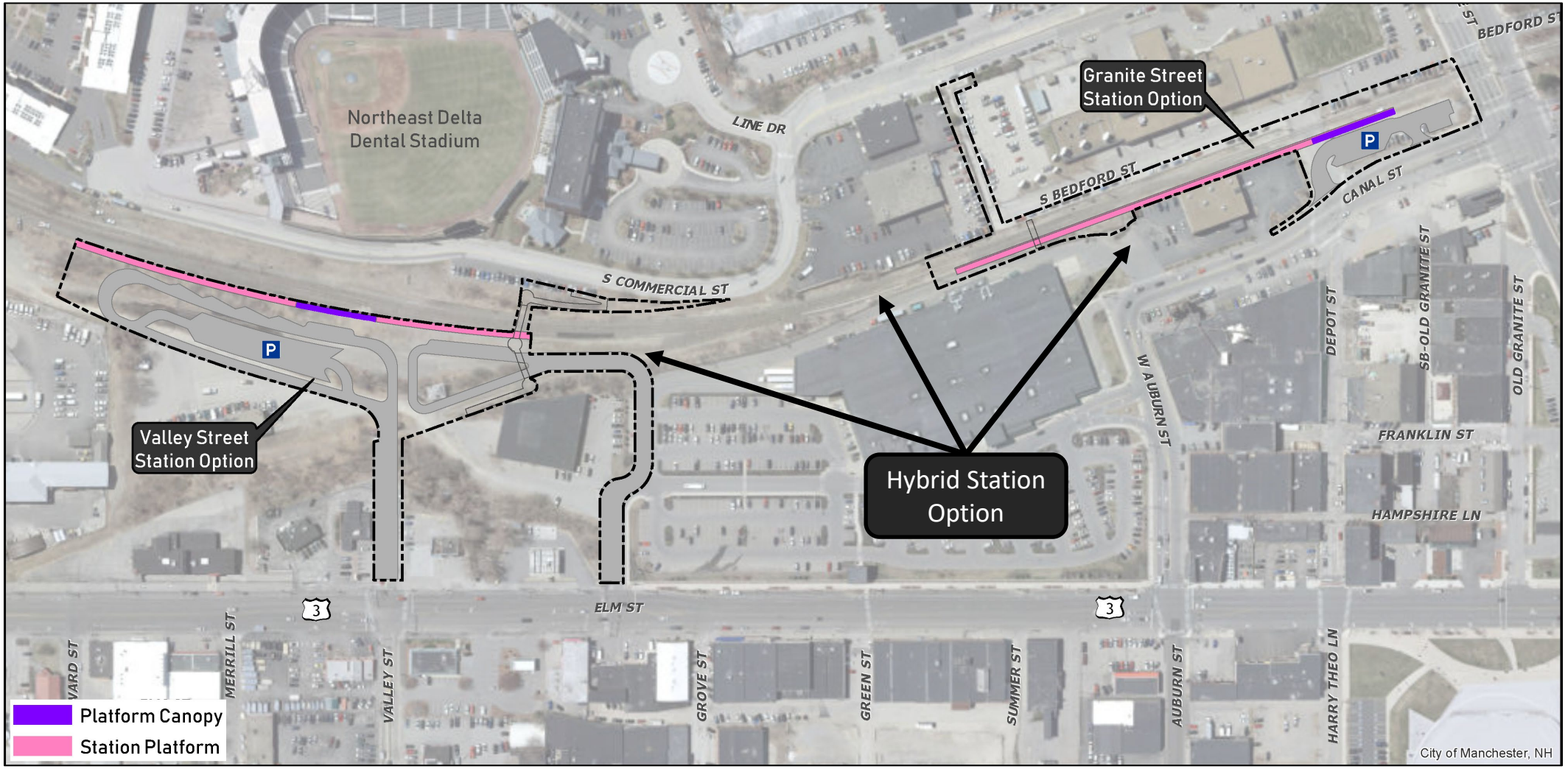
Operational Requirements

- Manchester is a terminus station
- Separate station track desirable to avoid freight conflicts
- MBTA is assumed operator

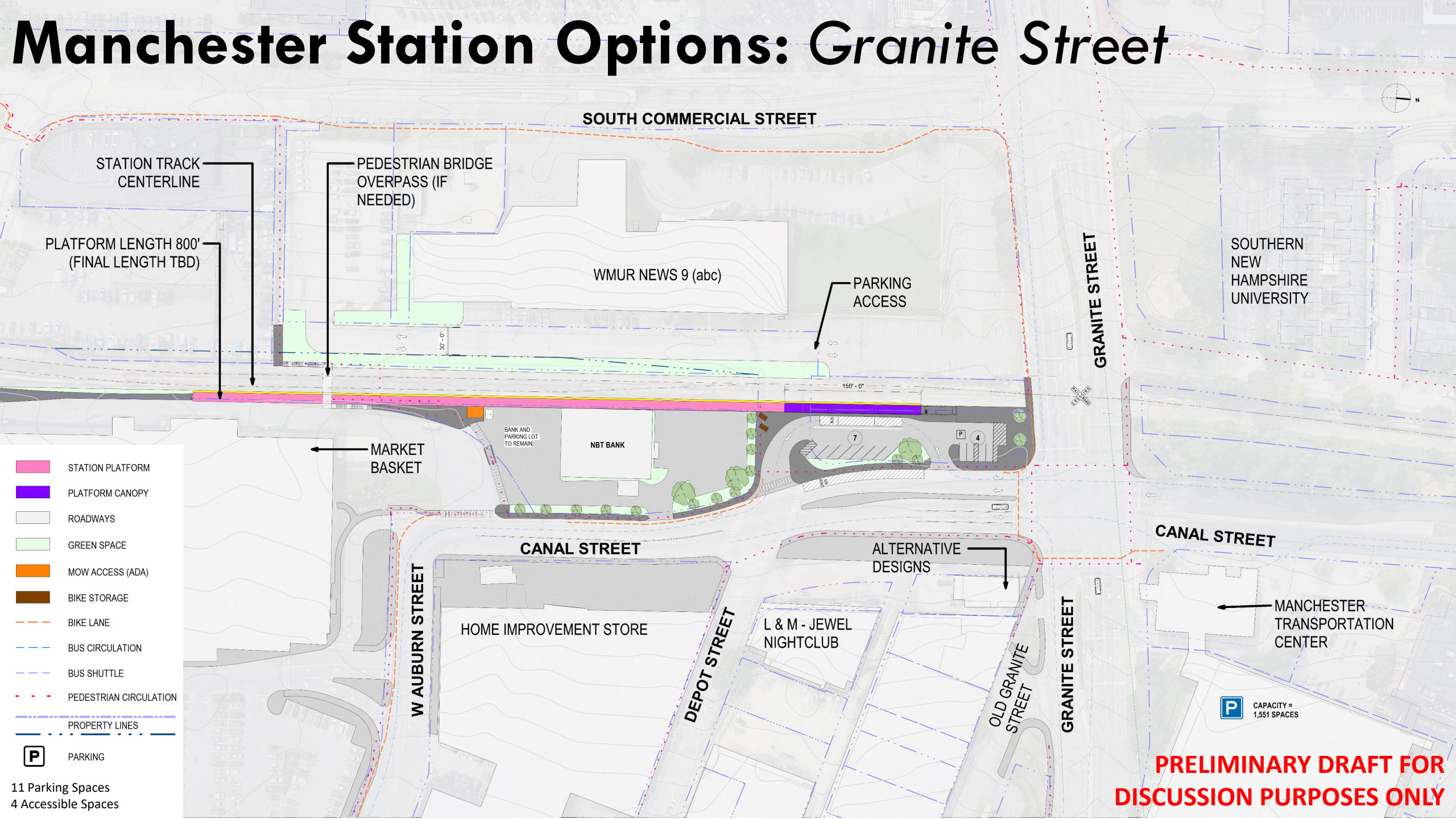
Design Criteria

- Design pursuant to MBTA and federal standards (CFR Title 49 vol. 1 §37.41-37.43)
- Boarding must occur by use of one or more of the following means:
  - Level-entry boarding; Car-borne lifts; bridge plates, ramps or other appropriate devices; Mini-high platforms, with multiple mini-high platforms or multiple train stops, as needed; or Station-based lifts

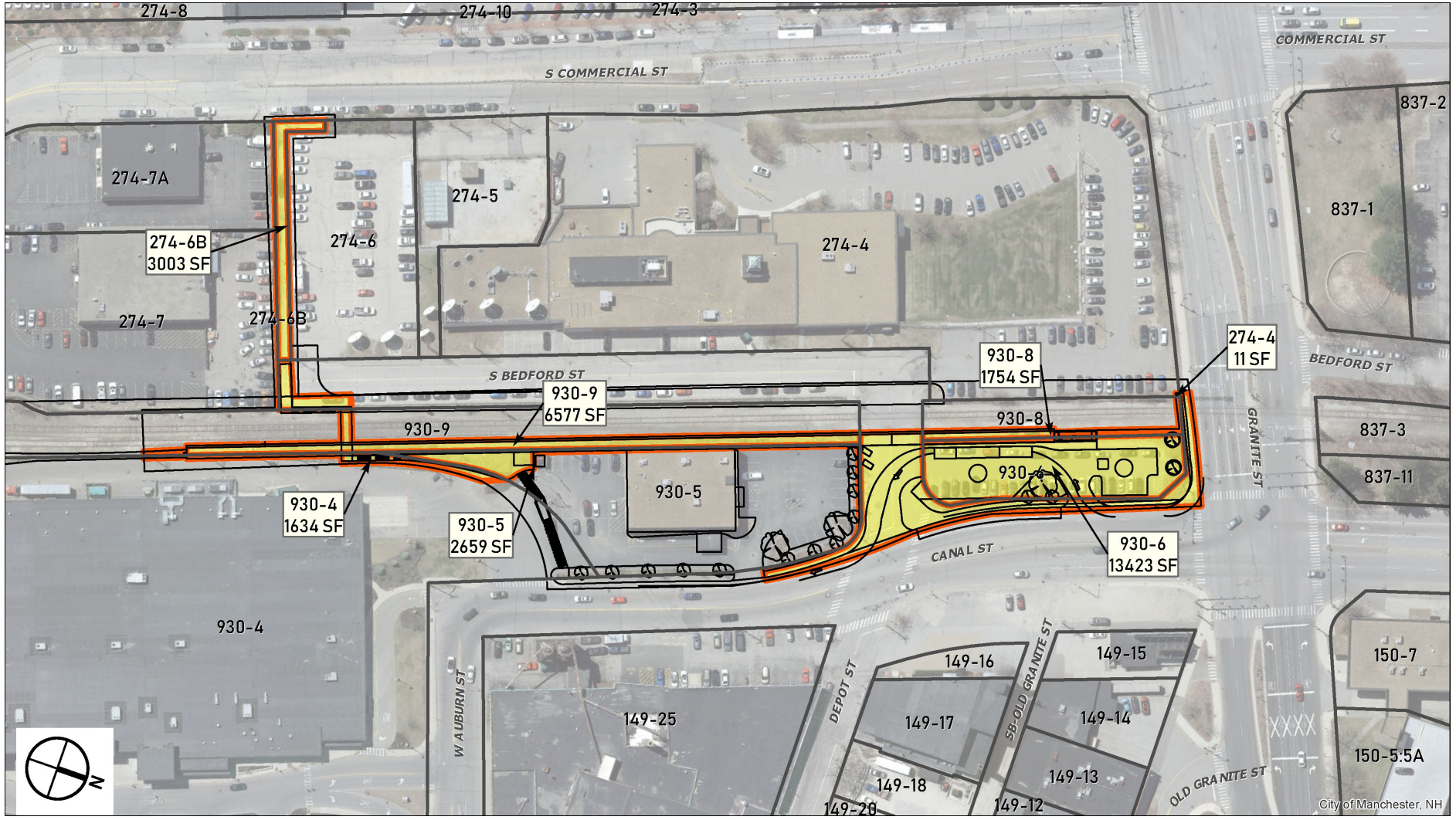
Manchester Station Options: *Overview*



Manchester Station Options: *Granite Street*

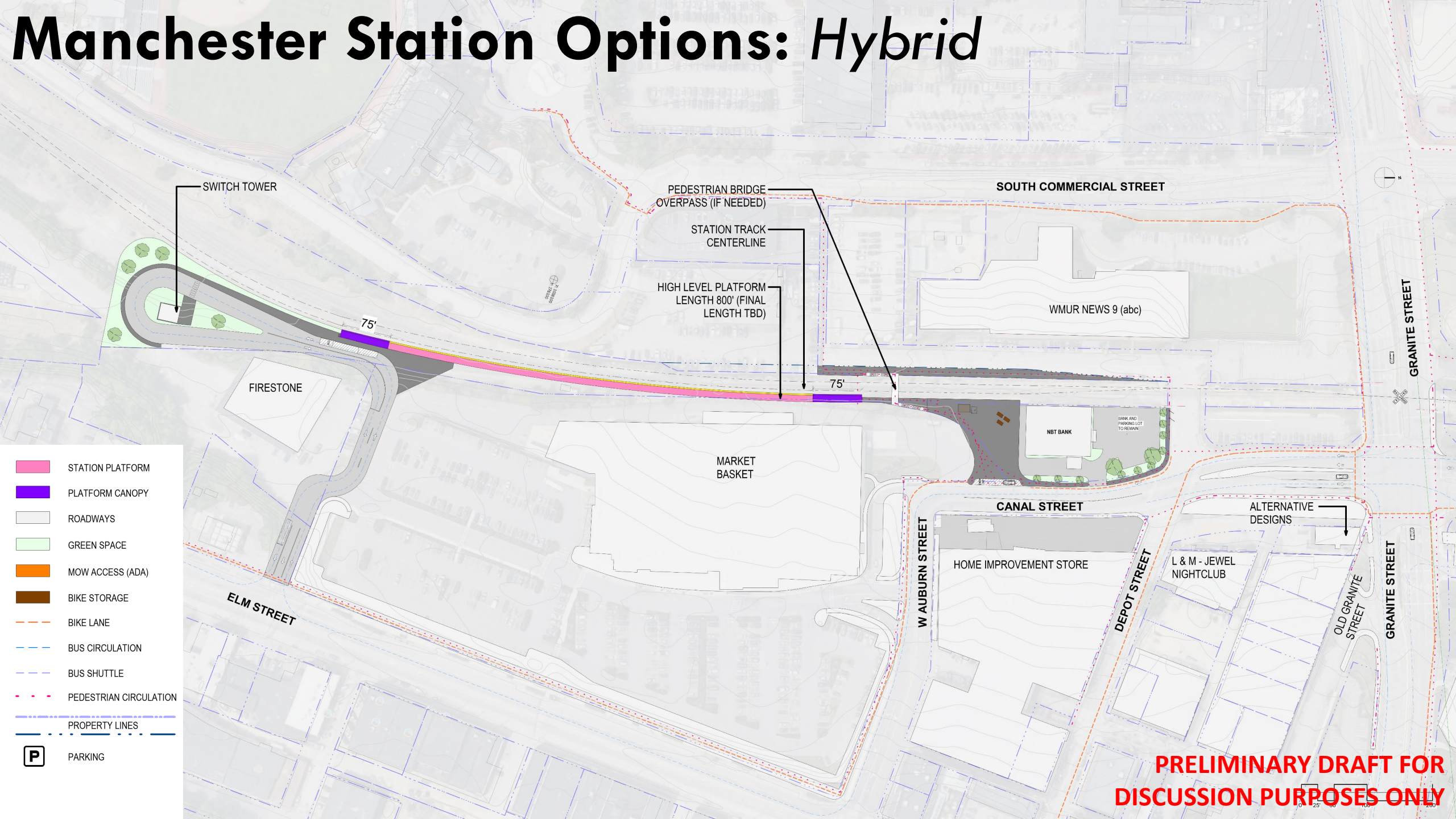


Manchester Land Impacts: *Granite Street*



Total Land Impact: 41,886 SF.

Manchester Station Options: *Hybrid*



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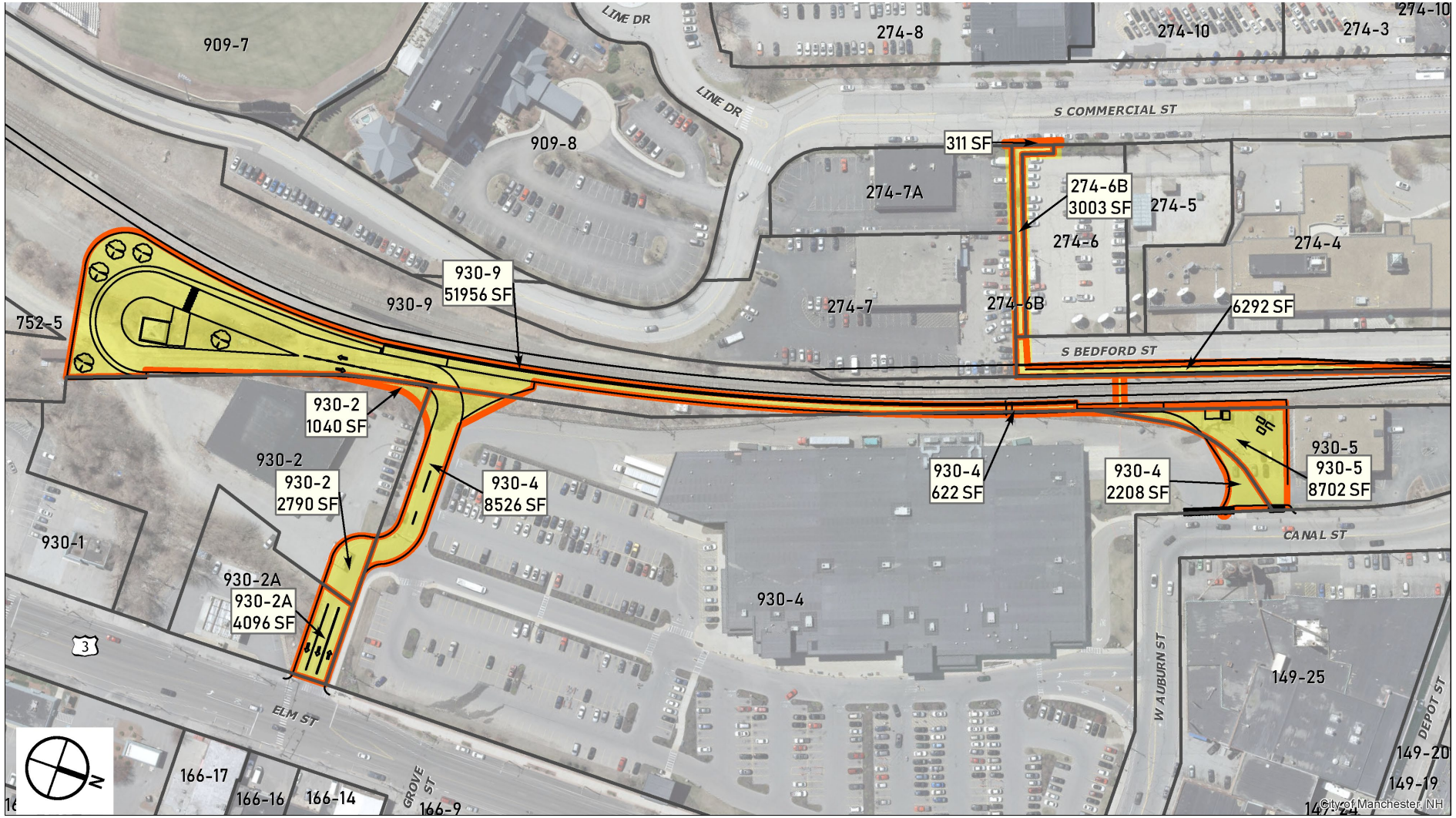
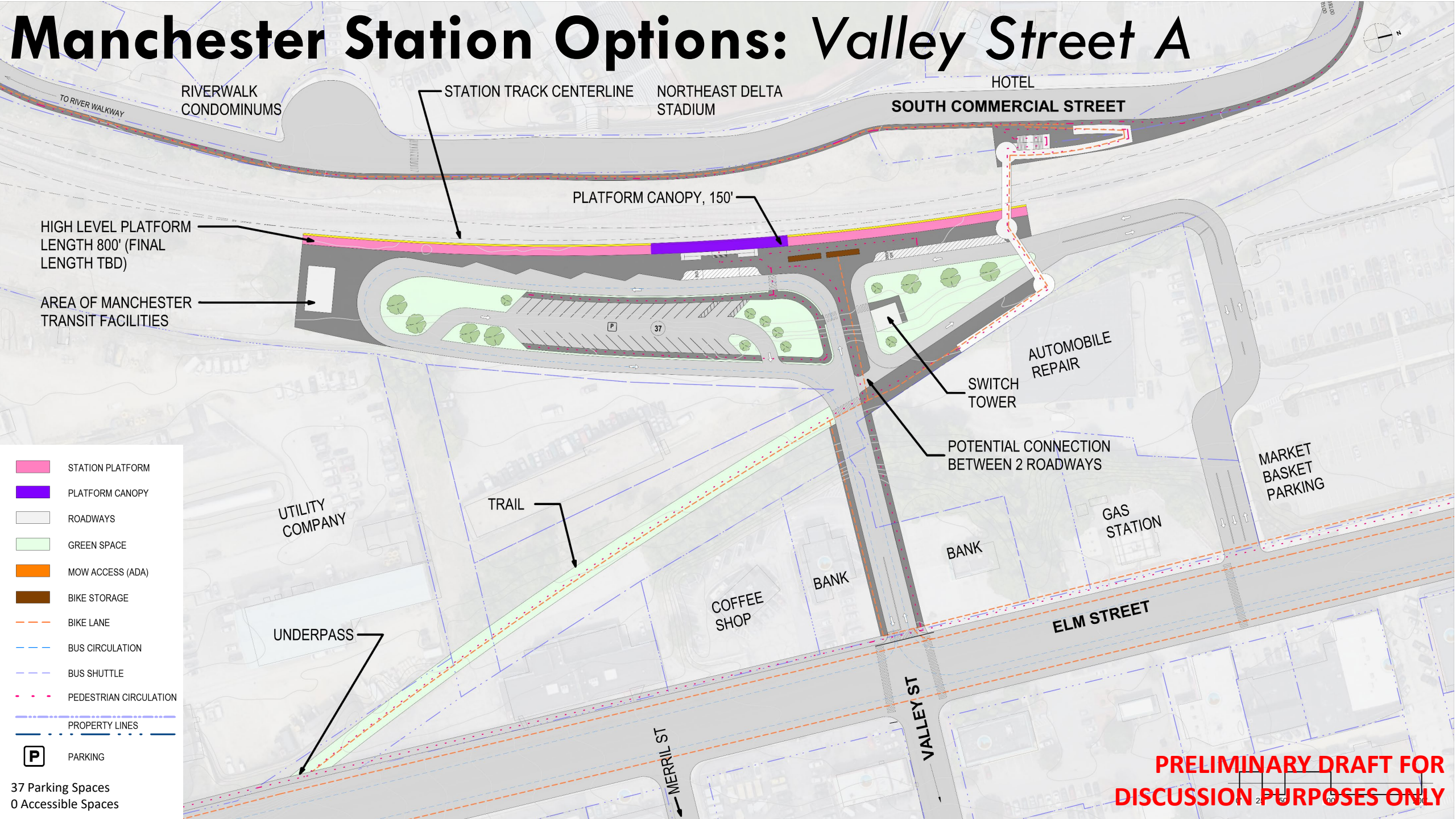
Manchester Land Impacts: *Hybrid*



Total Land Impact: 82,943 SF.

Manchester Station Options: *Valley Street A*



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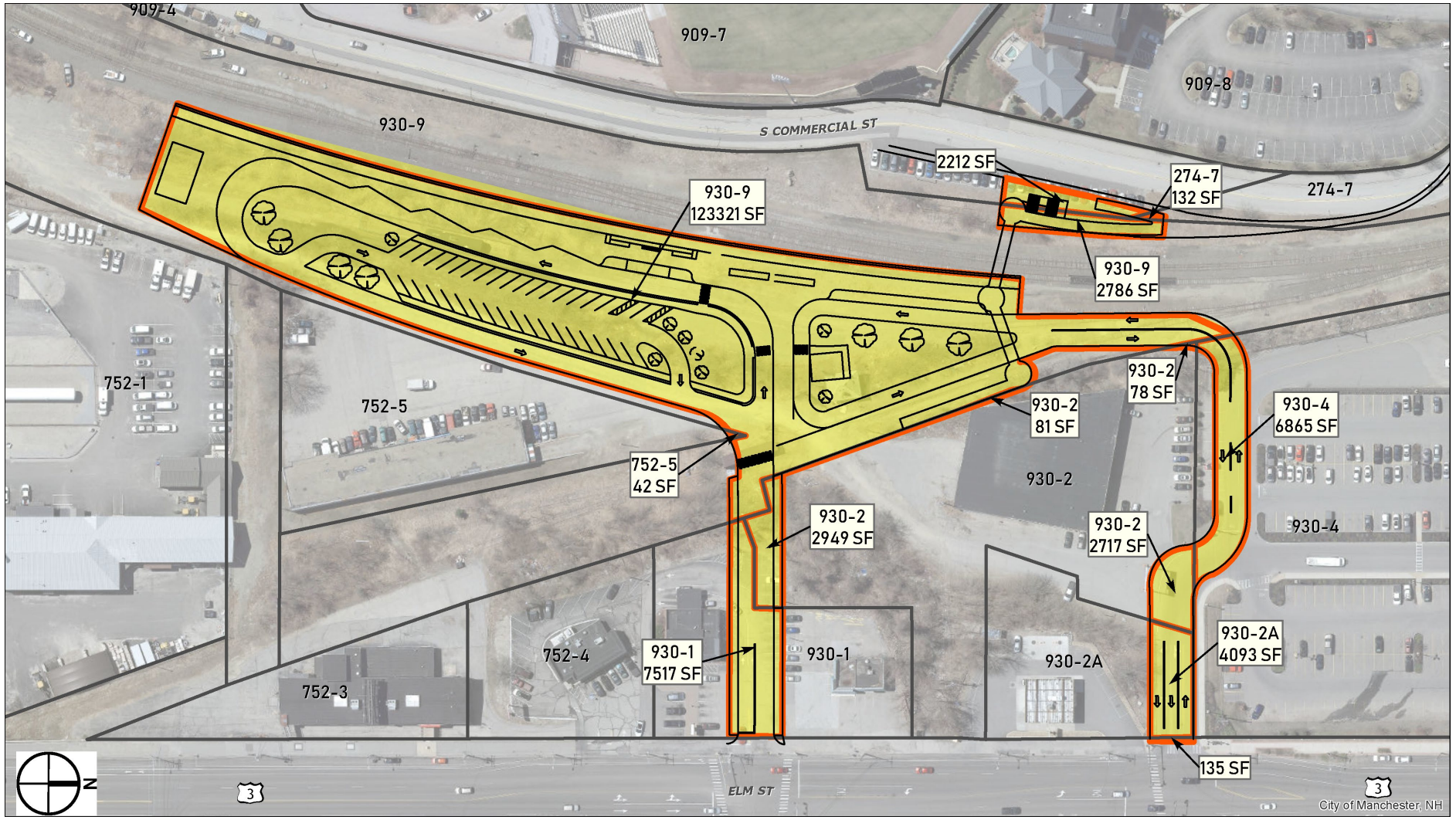
Manchester Land Impacts: *Valley Street*



Total Land Impact: 152,107 SF.

Manchester Land Impacts: *Comparison Table*

Granite St

PID	Parcels.Owner	Sq Ft	Land Use
	ROW	12,824	
274-4	HEARST-ARGYLE PROPERTIES INC	11	Office Bld
274-6B	CITY OF MANCHESTER	3,003	Notax C Va
930-4	DSM MB II LLC	1,634	Supermkt
930-5	H & R REALTY CO	2,659	Bank Bldg
930-6	CITY OF MANCHESTER	13,423	Town Vac
930-8	BOSTON AND MAINE CORP	1,754	Notax C Va
930-9	BOSTON AND MAINE CORP	6,577	Notax C Va

Total Land Impact: 41,886 SF.

Hybrid

PID	Parcels.Owner	Sq Ft	Land Use
930-2	VORLICEK, F AND G LIVING TRUST	3,829	Auto Repr
930-2A	AL PRIME ENERGY CONSULT INC	4,096	Rtl Gas St
930-4	DSM MB II LLC	11,356	Supermkt
930-5	H & R REALTY CO	8,702	Bank Bldg
930-9	BOSTON AND MAINE CORP	51,956	Notax C Va
274-6B	CITY OF MANCHESTER	3,003	Notax C Va

Total Land Impact: 82,943 SF.

Valley

PID	Parcels.Owner	Sq Ft	Land Use
	ROW	2,346	
274-7	SOUTH BEDFORD STREET HOLDINGS	132	Auto Repr
752-5	TSELIOS, GEORGE	42	Comm Whse
930-1	216 ELM STREET PROPERTIES LLC	7,517	Bank Bldg
930-2	VORLICEK, F AND G LIVING TRUST	5,825	Auto Repr
930-2A	AL PRIME ENERGY CONSULT INC	4,093	Rtl Gas St
930-4	DSM MB II LLC	6,865	Supermkt
930-9	BOSTON AND MAINE CORP	126,107	Notax C Va

Total Land Impact: 152,107 SF.

Scoring Matrix: *Effectiveness Indicators*

Indicator	Measure	Granite Street	Valley Street	Hybrid
Commuting potential/ congestion mitigation	A measure of the population within a ½ mile radius of the proposed station location. More people = a higher commuter base	●	◐	◐
Multi-modal connectivity	How well does the station link to **existing** transit network/ opportunities for last mile commute	●	○	◐
Reverse commute	Jobs accessibility proximal to the station	●	○	●
Compatibility with surrounding land uses	Does the presence of station align with the surrounding land uses or would its presence/traffic negatively impact abutters	●	◐	◐
Parking	Level of effort required to meet relevant station minimums (**excludes potential for shared parking agreements**)	◐	●	◐
Station Accessibility	How easy it is **today** to access the station site	●	○	◐
Ease of Constructability	A measure of effort to construct the station, i.e. engineering complexity, track geometry, etc.	◐	●	○
TOD Potential	To what extent is there the potential for TOD to occur around the station location	○	●	◐

Scoring Matrix: *Environmental Indicators*

Indicator	Measure	Granite Street	Valley Street	Hybrid
Impervious surfaces	As a measure of new impervious surface required for the designed station	●	○	◐
Wetlands/ Wetland Soils	Proximity or encroachment on wetlands	●	●	●
Flooding	Is the site in a 1% or .2% flood zone	●	●	●
Historic Resources	Is the site proximal to historic properties or districts	◐	●	◐
Preserved Land	Does the site negatively impact protected land (local, state, or federal)	●	●	●
EJ Communities	Does the station site provide increased transit access for disadvantaged communities	◐	◐	◐
Hazardous Sites/ Materials	Is the site proximal to or contain hazardous materials or is a brownfield site	●	○	◐

Scoring Matrix: *Cost Indicators*

Indicator	Measure	Granite Street	Valley Street	Hybrid
Construction Cost	Granite St. Option (2014)	●	○	◐
Site Ownership	Does it need to be acquired/ does NHDOT already own the site	Land Impacts: 41,886 SF.	Land Impacts: 152,107 SF.	Land Impact: 82,943 SF.

	Granite St. Option (2014)	Granite St. Option (2021)	Valley St. Option	Hybrid Option
Scope Category	Construction Cost (SS)	Delta		
Station Platform	$3,306,000	0	0	+10%
Station Site	$2,394,000	+5%	+80%	+25%
	$5,700,000	+5%	+80%	+35%
*All figures in 2021 Dollars				

Manchester Layover Facility Options

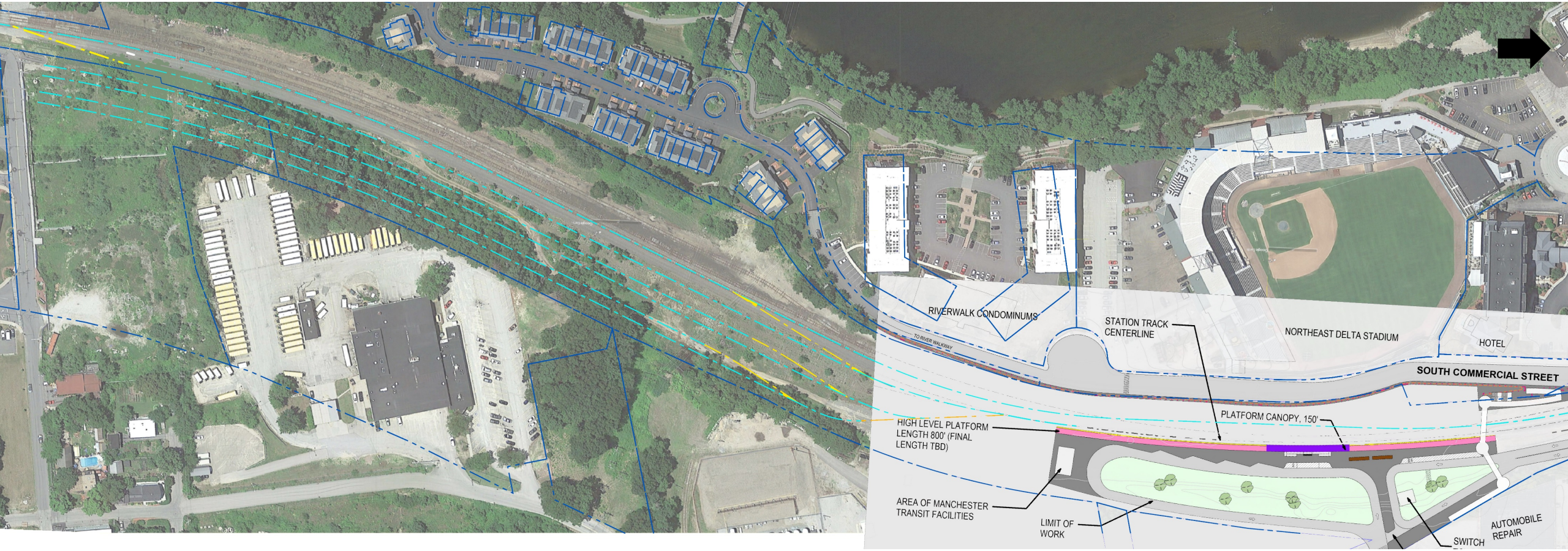
Updated Layover Facility Concept

Layover Site: *Operational Requirements*

- Overnight train storage in yard
- Mid-day trains layover at station (20 to 25 min.)
- Commuter rail schedule:
  - Storage for 4-5 train sets
  - 900 to 1,000 feet/train
- Regional rail schedule may require fewer/shorter train sets

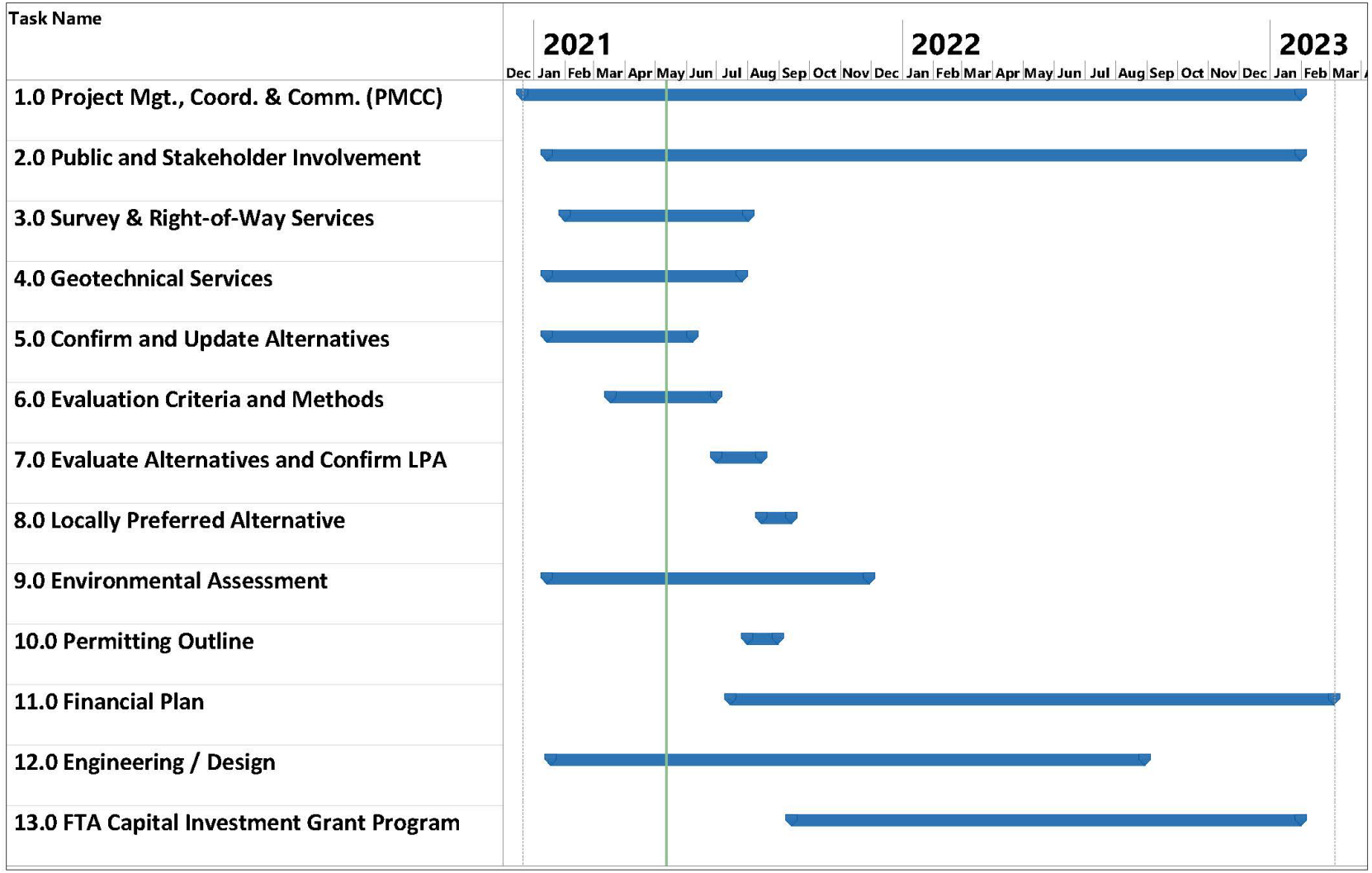
The MBTA's Greenbush Line layover facility

Layover Site: #2 — *Pan Am South*



Next Steps

Project Schedule



Confirm / Update Preferred Alternative

- Manchester Regional Commuter Rail
- Stations
  - Manchester *(Granite Street, Valley Street*, or Hybrid)*
  - Bedford/Manchester Airport
  - Crown Street Nashua
  - South Nashua *(Spit Brook Rd or Pheasant Lane Mall)*
- Layover *(2 potential locations in Manchester)*
- Need to confirm location of stations and layover

* Valley Street location consistent with City of Manchester TOD Plan, September 2020

Stakeholder and Public Meeting Schedule

- Stakeholder meetings
  - Small groups / hybrid of in-person and virtual
  - April through July 2021
- Fact sheet – Summer 2021
- General Public Meeting
  - Format based on public health directives in effect
  - Target by November 2021
  - Notification via email and website
- Website

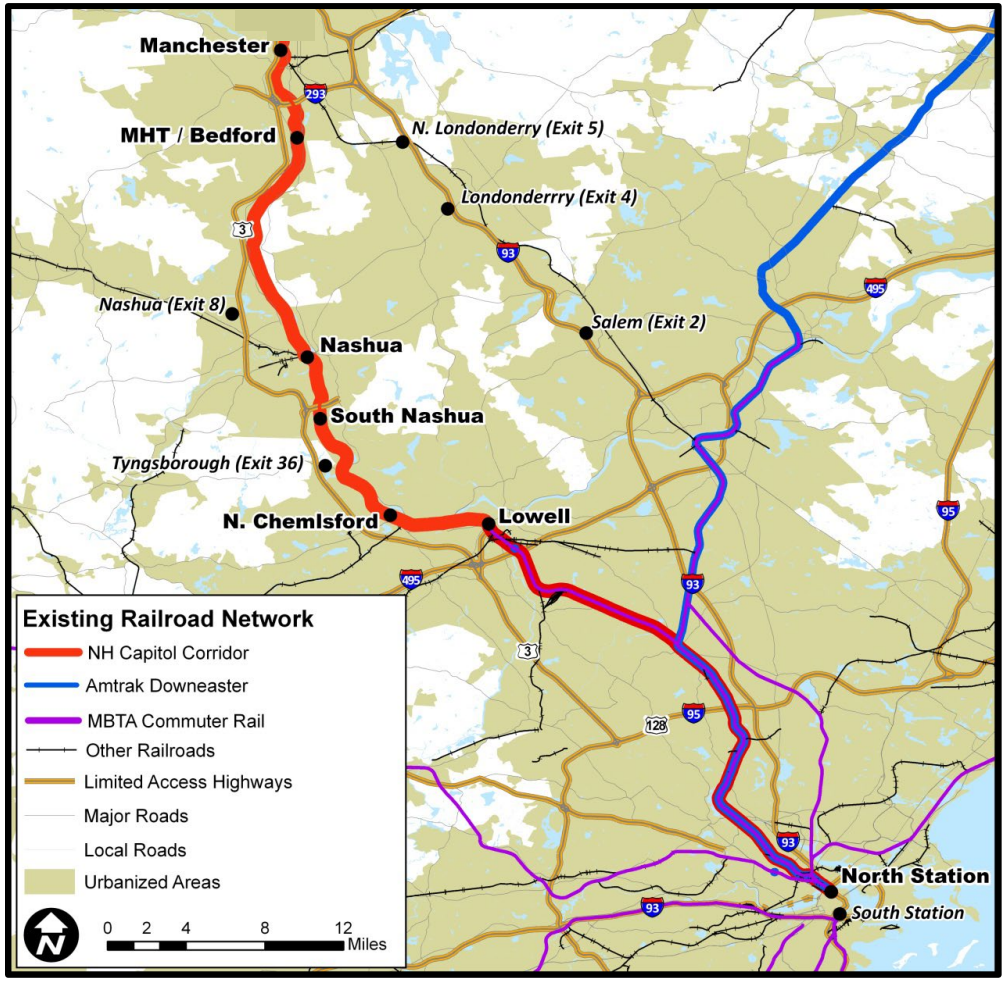
Next Steps

- Select preferred station location for South Nashua and Manchester
- Select layover facility location in Manchester
- Coordinate with key stakeholders
  - Municipal TOD plans
  - First mile/last mile station access
- Continue coordination with MBTA/MassDOT, FTA Region 1, and regulatory agencies

Extra Slides

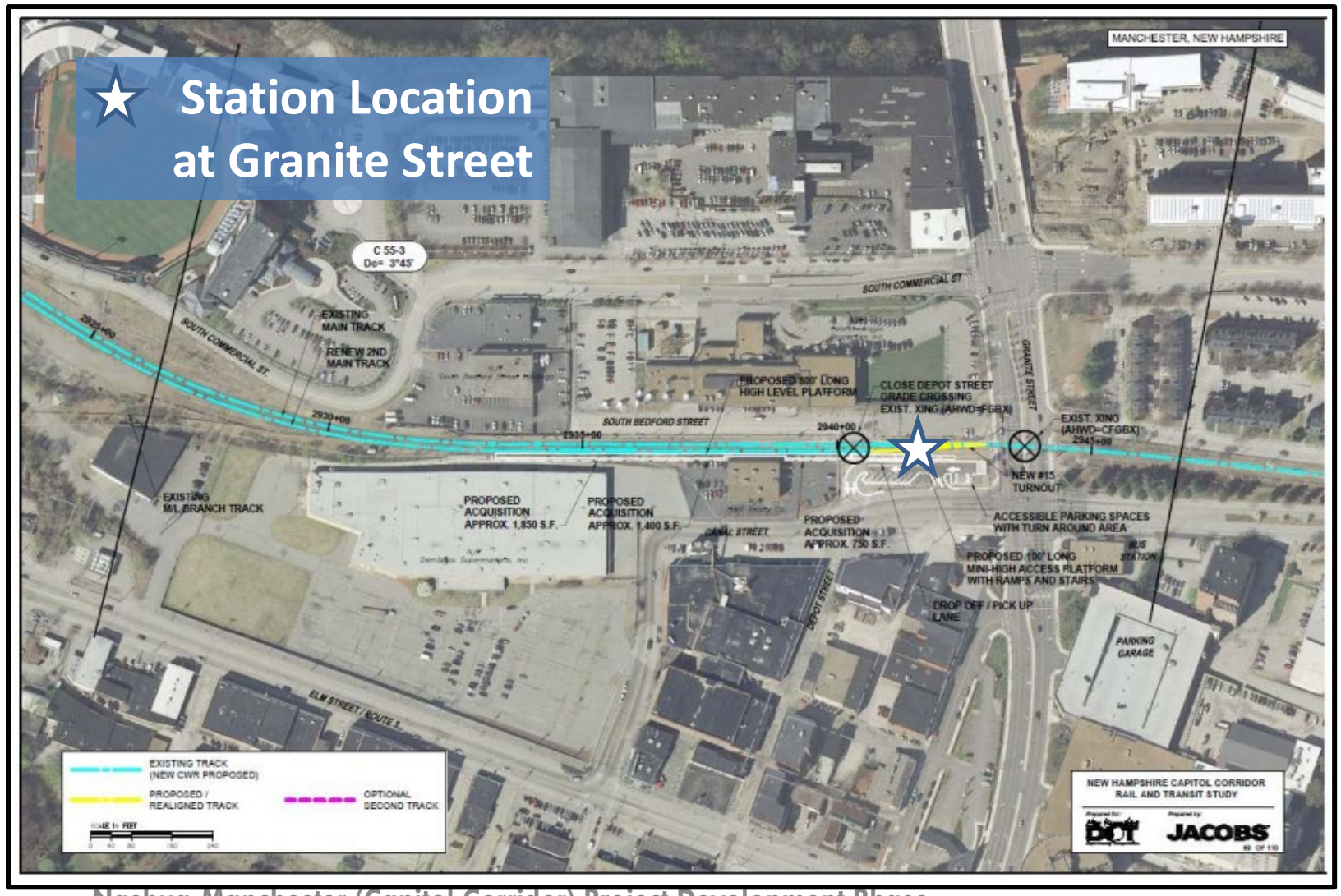
Athens GA Multimodal Center

Background: *Preferred Service Option*



- Extends Lowell Service to Nashua (34 trains/day) and Manchester (16 trains/day)
- Highest ridership and economic benefits
- Builds on 40 years of MBTA network extensions
- Interstate precedent is Pilgrim Partnership with RI

Background: *2014 Station Layout*



- Station alternative as shown in 2014 Environmental Assessment
- The site reflects the location of Manchester's historic rail station
- The plan reflects a single 800' high-level platform along the west side of the track
- This alternative preceded TOD planning

2020 Manchester TOD Plan

- The plan works to create a dense and walkable Manchester
- The plan articulates bike and pedestrian improvements for enhanced connections throughout downtown
- Works to limit parking and particularly surface parking
- The preferred scenario includes 1,100 new residential units, 300,000 SF of office space and 1,000 shared parking spaces

New Hampshire DOT Department of Transportation

Manchester Station Options: *Comparison*

	Granite Street Station		Valley Street Station	
	Pros	Cons	Pros	Cons
Downtown connectivity	Proximity to Downtown and Millyard	On outskirts of TOD redevelopment area	Central to TOD redevelopment area	Further distanced from Downtown and Millyard
Surrounding land use	Good proximity to commercial areas	Modifications to roadway network circulation necessary	Design encompasses future development and provides good buffer between tracks and future development	Proximity to new residential developments on South Commercial Street / Riverwalk Way (potential noise, AQ impacts)
Environment	Outside of 1% and .2% annual chance flood hazard areas		Outside of 1% and .2% annual chance flood hazard areas	Increased impervious service over baseline site area
Pedestrian & Bicycle access	Close proximity to UNH, SNHU and Manchester Transportation Center, and parking garage		Site is connected to future multi-use pathway and provides for direct access to Delta Dental Stadium	
Parking	Proximity to public parking garage; No additional land area needed for parking	Limited onsite parking, 11 vehicles total (7 regular spaces and 4 ADA spaces)	Dedicated parking for up to 62 vehicles including 4 ADA spaces	Competition with other fee-based parking uses

Layover Site: *Design Criteria*

Site Elements

- Small staff building
  - Lockers and restrooms
  - 15 - 20 parking spaces on-site
- Electrical service
  - Footprint for electrical equipment (switchgear, transformers)
  - Supply power for trains (480v), lighting and building

Fueling Considerations

- Liquid fuels via a new truck accessway
  - Provide asphalt apron as in NNEPRA's Brunswick
  - No built-in / on-site fueling facility assumed
- Electrical service could be spec'd to support future electrification of passenger trains

Layover Site: *Compatibility Factors*

Land Use Compatibility

- Adjacent Uses & Screening
  - Relative fit or mesh with existing uses nearby
  - Long-term threats to site's proposed use as layover
- Land Acquisition Required

Train Storage Capacity

- Total Trains / Support for Proposed Schedules
- # Trains per Track
- Accommodates Potential 2nd Main Line Track

Operations

- Proximity to Station
- "Dead Head" Moves
- Accommodates Potential for Future Electrification of Yard & Main Line

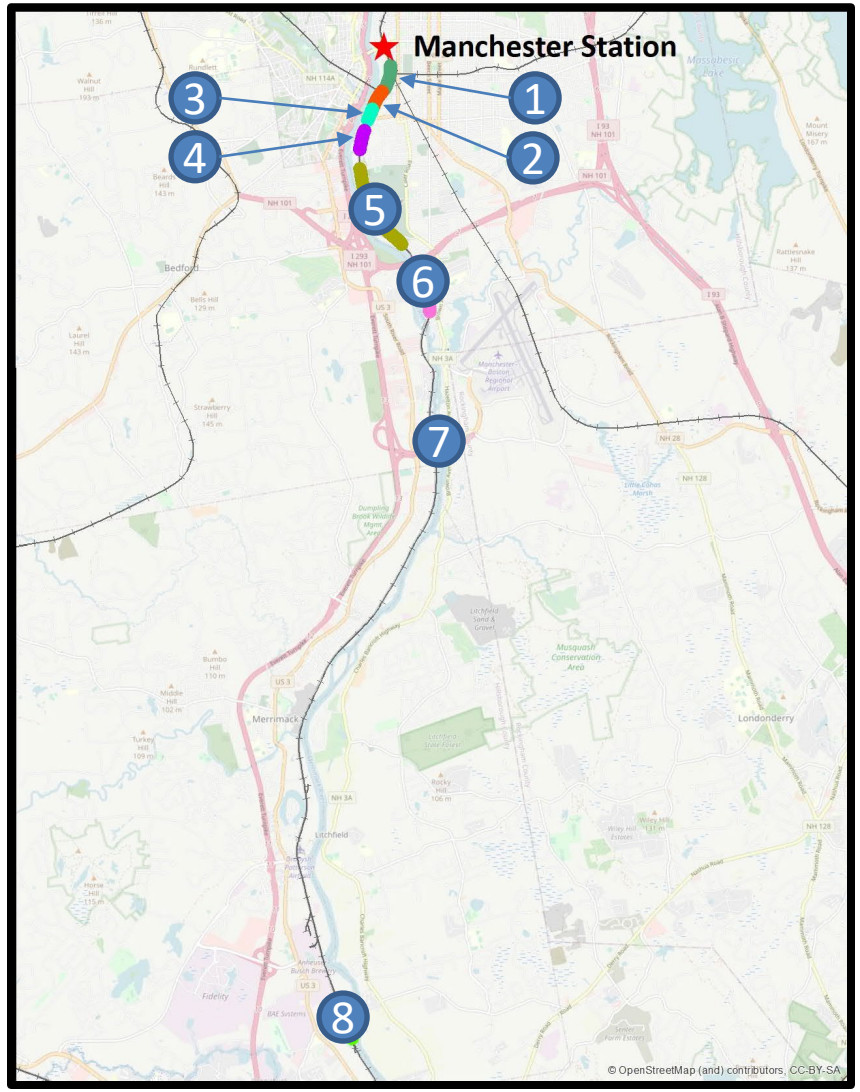
Environmental Constraints

- 100-Year Floodplain
- Open Space Adjacency

Infrastructure Availability

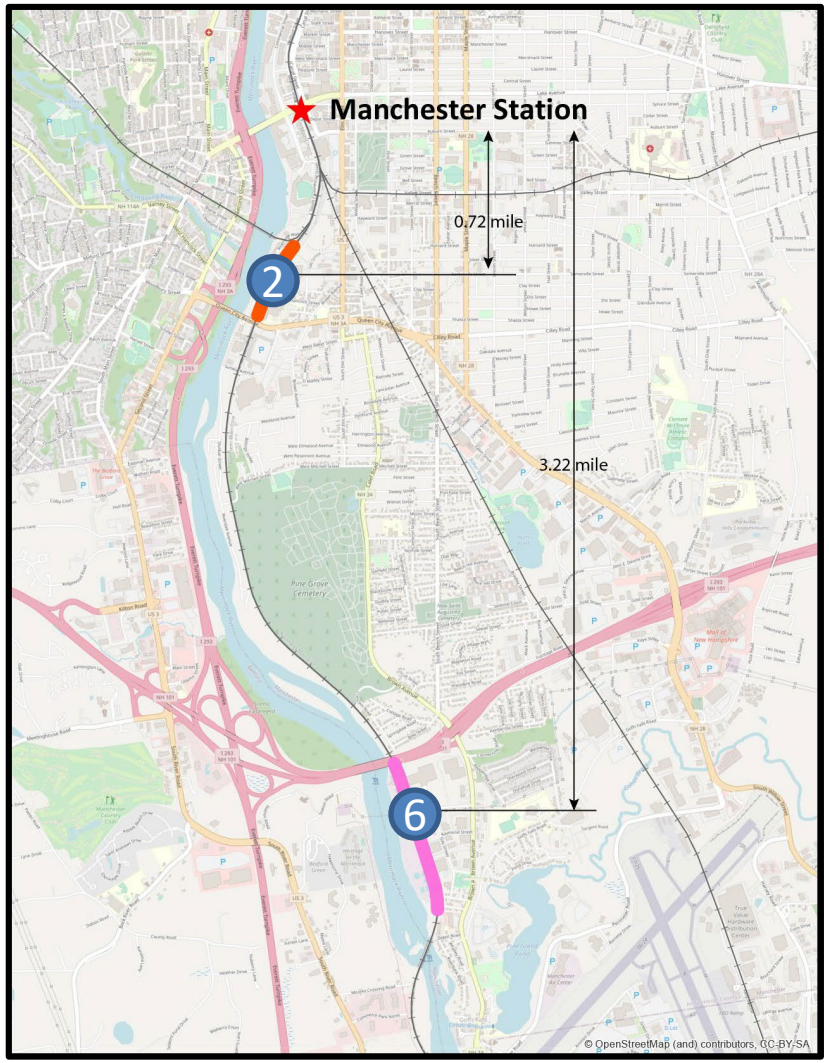
- Electrical Service
- Water + Sewer
- Roadway Acces

Layover Site: *Potential Locations*



1. Pan Am North (2014 Study)
2. Pan Am South
3. North of Queen City Bridge
4. South of Queen City Bridge
5. Pine Grove Cemetery
6. City of Manchester Wastewater Treatment Plant
7. Bedford U-Haul (Airport)
8. Merrimack Waste Treatment Facility

Layover Site: *Short-listed Locations*



2 Pan Am South

6 City of Manchester Wastewater Treatment Plant

Excluded Sites

- *Limited Compatibility with Future Land Use*
  - 1 Pan Am North (2014 Study)
- *Adjacent to Sensitive Receptor*
  - 3 North of Queen City Bridge
  - 4 South of Queen City Bridge
  - 5 Pine Grove Cemetery
- *Deadheading Concerns*
  - 7 Bedford U-Haul (airport)
  - 8 Merrimack Waste Treatment Facility

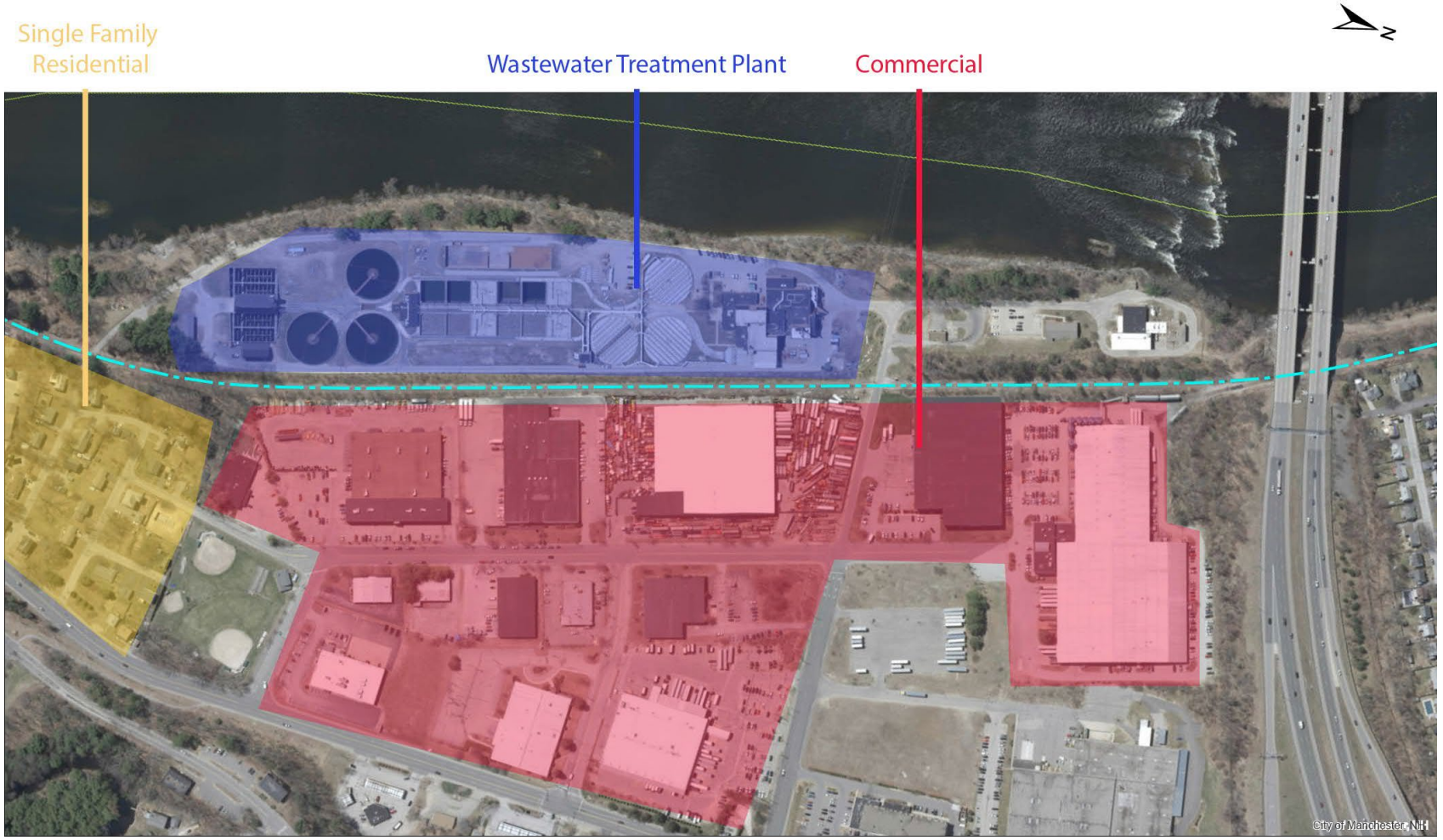
Layover Site: *Summary Screening Matrix*

CRITERIA (*)	PAN AM SOUTH	TREATMENT PLANT

Land Use Compatibility	• Compatible uses on east side of ROW
	  ○ West side features two multi-family residential complexes
	  ○ Could add screening berm and/or wall
	• Some land acquisition
		• Compatible uses on both sides of ROW
		  ○ Screening not required
		• Land acquisition for building and parking

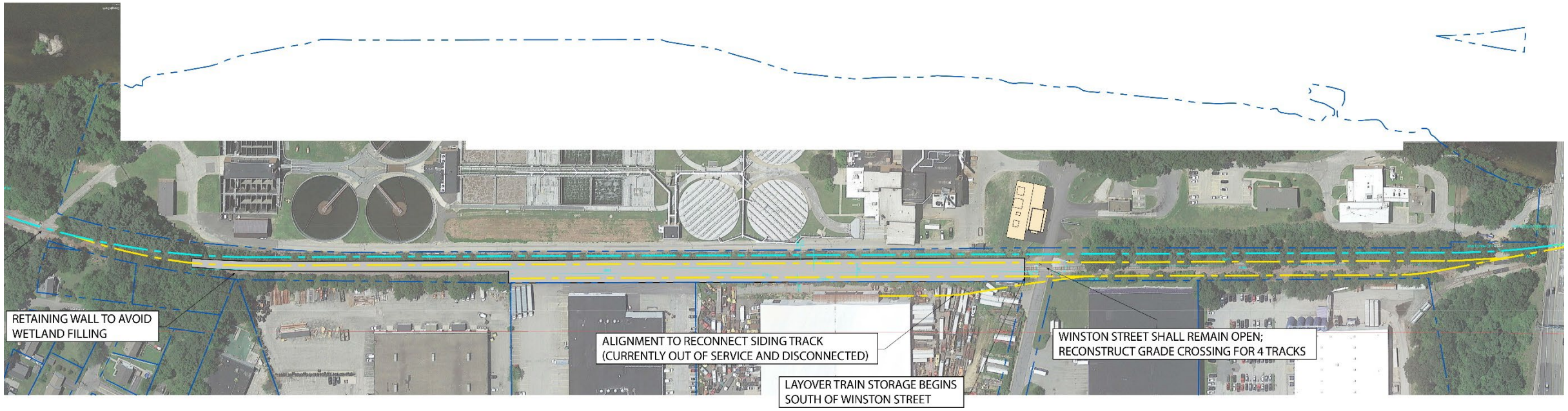
Train Storage Capacity	• 5 trains (Supports ALL conceptual schedules) • 5 tracks • One track per train (Desirable) • Accommodates 2nd Main track	• 3 trains (Does NOT support Full Commuter) • 2 tracks • 2 trains on one track (Undesirable) • Does NOT accommodate 2nd Main track
Operations	• Close to station • Minimal "dead head" moves • Yard and Mainline supports future electrification	• 3 miles from station • Impacts to abutters from "dead head" moves • Difficult for future electrification of yard and mainline

Layover Site: #6 — *Wastewater Treatment Plant*

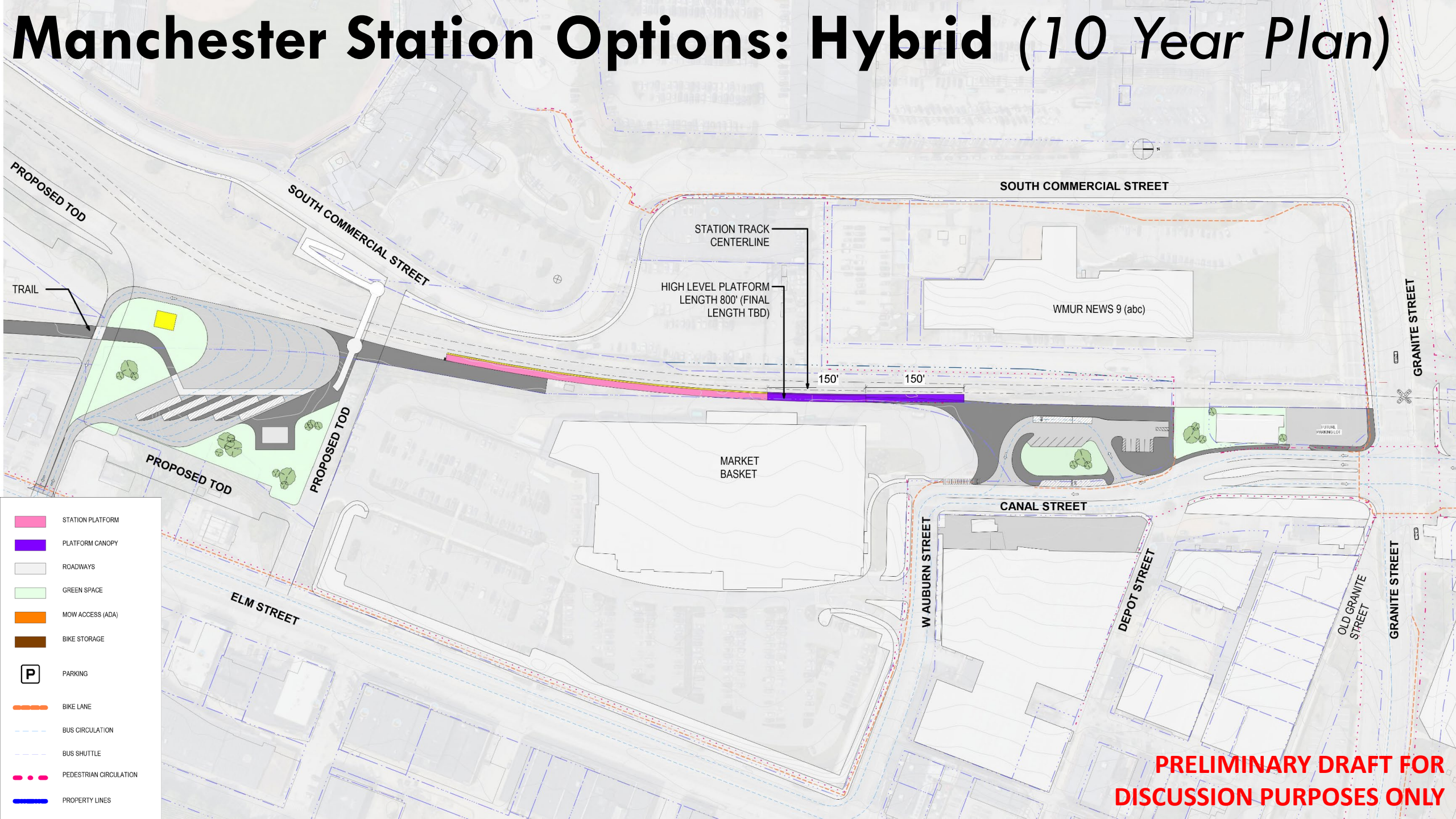


Layover Site: *#6 — Wastewater Treatment Plant*

- 30’ separation between at-grade crossing and beginning of storage
- Maintenance building



Manchester Station Options: Hybrid *(10 Year Plan)*



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